EE/CprE/SE 492 WEEKLY REPORT 9/27
January - December
Group Number: 1
Project Title: Applying and Evaluating Blockchain in Energy Delivery Systems
Client: Grant Johnson
Advisor: Dr. Gelli Ravikumar
Team Members/Roles:
Owen Snyder - Frontend/UI Developer
Josh Edwards - Backend API Developer
Emileo Xiao - Testing/Evaluation Lead
Dylan McCormick - Lab Integration Lead
Thai Pham - Blockchain Lead

Weekly Summary (Short summary about what the group did for the week. This should be about a paragraph in length. These are just a few questions to help you get started. What was the overall objective for the week? In general, what tasks were completed? Were there any changes made to the project?)

Past week accomplishments (Please describe/summarize as to what was done, by whom, when and, collectively as a group. This should be about a paragraph or two in length. Bulleted points are acceptable as well. Please keep only your technical details related to your project. Figures, schematics, flow diagrams, pseudocode, and project related results are acceptable, but please ensure that they are legible (clear enough to read) and to provide an explanation. If researching a topic, please add a few details about what was learned and how it is relevant to the project. If two or more people worked on a single task, be sure to distinguish how each member contributed to the task. Specific details relating to the assistance provided to other members may be included here. Do not include classwork, such as individual reflection assignments, and group meetings as part of your duties.)

Owen Snyder - Continued research of past teams effort's on the UI portion of the project and development of a simple prototype UI for this project that will later be able to be integrated into the BC network and API once they have been completed

Josh Edwards - Worked in Python this week for the websockets to aid in real world implementation within the lab. Currently have a .csv parsing program that transmits the data to clients upon connection.
Emileo Xiao - Worked together with Thai Pham to try to get more nodes running on a local blockchain network. Specifically, troubleshooting errors and researching the Hyperledger Fabric API. I tried to integrate caliper into his blockchain network, but it was unsuccessful.
Dylan McCormick - Continued communication with advisor for what to expect on the physical end for integration. Tested/researched python/CVS possibilities.
Thai Pham - Collaborated with Emileo Xiao to work through the HyperLedger-Fabric tutorial for the local blockchain network and smart contract deployment.

Pending issues (If applicable: Were there any unexpected complications? Please elaborate.)

Owen Snyder - N/A
Josh Edwards - Need to explore JavaScript/Python compatibility within the websockets, possibly swap around the framework such that the Opal-RT is a client and our backend is naturally the server.
Emileo Xiao - The VM to host Hyperledger Caliper on does not work. Our advisor gave us the wrong credentials so I cannot access it.
Dylan McCormick - Communicating with labs team
Thai Pham - Mainly a lot of trouble shooting to get Hyperledger-Fabric working

Individual contributions (Creating this section is optional, but it is Required to include the “Hours Worked for the Week” and their “Total Cumulative Hours” for the project for each member somewhere relevant in your report. Your individual weekly hours should be at a minimum of 6-8 hours for this course. So please manage your time well. Also, ensure that
individual contributions support your claim to the weekly hours. Be honest with the reports.) NAME Individual Contributions (Quick list of contributions. This should be short.)

Team Member	Contributions	Weekly Hours	Total Hours(from this semester)
Owen Snyder	Research on UI Implementation	4	11.5
Josh Edwards	Python Websockets	6	13
Emileo Xiao	Worked with Thai to expand the blockchain	6	14
Dylan McCormick	Researched physical integration possibilities	6	12.5
Thai Pham	Working on the fabric-tutorial to run nodes locally on a VM.	7	17

Comments and extended discussion (Optional)
Feel free to discuss non-technical issues related to your project.

Plans for the upcoming week (Please describe duties for the upcoming week for each member. What is(are) the task(s)? Who will contribute to it? Be as concise as possible.)

Owen Snyder - Continue development of UI portion and help other team members with development of more urgent parts of the project
Josh Edwards - Continue to develop and enhance the socket programs as scope narrows. Get the previous backend spun up now that we are getting the VM's unlocked. Brainstorm ideas for data packaging and transfer techniques.
Emileo Xiao - Once the credentials to the VM is fixed, I expect to have Docker running on it with Hyperledger Caliper and try to link it together with Thai's blockchain on the VMs.

Dylan McCormick - Worked on communicating with advisor to plan future integration ideas. Researched CVS with python.
Thai Pham - Currently researching on how to develop chain code and shell scripting to be able to move beyond the tutorial and lean towards personalized implementation for the project. Will probably look through old teams material to see if there's anything of value to use.

Summary of weekly advisor meeting (If applicable/optional)
(Provide a concise summary on the contents and progress made during the advisor meeting.)

We met with our client and he gave us guidance that would help us finish the project. He recommend we should always be thinking about these 5 things:

1. System dependencies in PowerCyber Labs
2. How to install packages/our project onto their system
3. How will the data be acquired within the system
4. Specifically what data properties are being sent
5. Is it possible to access our modules from external sources